Reviewer’s report

Title: Staphylococcus aureus From Patients with Chronic Rhinosinusitis Show Minimal Genetic Association Between Polyp and Non-Polyp Phenotypes

Version: 1 Date: 10 Aug 2018

Reviewer: Robert J. Lee

Reviewer's report:

This is an interesting paper that addresses an issue of importance in CRS pathogenesis. The underlying etiologies of CRSsNP and CRSwNP are controversial, and Staph. bacteria have been implicated as a driving factor in upper airway inflammatory diseases.

I think the analyses are well done in terms of the sequencing. However, the authors are comparing bacteria isolated from a relatively small patient sample set (28 CRS sNP and 30 CRSwNP). Are they statistically powered to detect small differences? There is no power calculation or discussion of this matter in the current version of the manuscript. I understand that these types of sequencing experiments are expensive and getting samples from patients has its own hurdles. I'm not necessarily suggesting that they need to do more experiments, but the study concludes there are is a lack of effect of specific virulence factors driving CRS phenotype. There needs to be some discussion of caveats that may exist based on this small sample size or how well they can interpret results if effects are subtle.

I also believe the study would be improved with a table of brief general patient characteristics (age, sex, smoking, antibiotic history, site of microbial swab, # prior surgeries, etc.) and whether any of these parameters differ between the two groups. I think it would be more important to show this information if more differences were detected to ensure that differences were not due to other differing parameters, but I think this study nonetheless would benefit from a brief supplementary table of the patient demographics.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes
Are the conclusions drawn adequately supported by the data shown? 
If not, please explain in your comments to the authors.

Unable to assess

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review? 
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

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